Frontier Hard Chrome Remediation Design Site Management Plan Work Assignment Number: 134-RDRD-1027

EPA Contract: 68-W7-0026

2 May 2002

EPA Region V

RAC

Response Action Contract

Roy F. Weston, Inc. · 190 Queen Anne Avenue North · Seattle, WA 98109-4926

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DRAFT SITE MANAGEMENT PLAN
FRONTIER HARDCHROME
VANCOUVER, WASHINGTON

Prepared for

U.S. EPA Contract No. 68-W7-0026
U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue
Seattle, Washington 98101

Contract No. 68-W7-0026
Work Assignment No. 134-RDRD-1027
Work Order No. 20064.134.100.0720
Document Control No. RFW134-2A-AKZK

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Prepared by

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Prepared and Approved By:	Larry Vanselow, P.E. Site Manager	Date: 5/2/02
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LIST OF ACRONYMS

Acronym	Definition
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
EC	Emergency Coordinator
EDNA	Environmental Designation for Noise Abatement
EPA	United States Environmental Protection Agency
FHC	Frontier Hard Chrome
FMC	Food Machinery and Chemical Corporation
FS	Feasibility Study
ft	Feet
HASP	Health and Safety Plan
HAZWOPER	40-hour Hazardous Waste Operations and Emergency Response
ISRM	In-situ Redox Manipulation
Manifest	Uniform Hazardous Waste Manifest
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
NAERG	North American Emergency Response Guidebook
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
OSHA	Occupational Safety and Health Act
PM	Project Manager
PPE	Personnel Protective Equipment

LIST OF ACRONYMS *(Continued)*

Acronym	Definition
RAC	Remedial Action Contract
RD/RA	Remedial Design/Remedial Action
ROD	Record of Decision
SWCAA	Southwest Clean Air Agency
SW-846	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods
TCLP	Toxic Characteristic Leachate Procedure
UFC	Uniform Fire Code
µg/L	micrograms per liter
UN/NA	United Nations/North America
VMC	Vancouver Municipal Code
WAM	Work Assignment Manager
WDOE	Washington State Department of Ecology
WESTON	Roy F. Weston, Inc.

SECTION 1

PROJECT MANAGEMENT

1.1 PROJECT/TASK ORGANIZATION

1.1.1 Purpose

This plan has been developed to control contamination at the Frontier Hard Chrome (FHC) site during site remediation activities and to ensure that wastes are properly disposed. This plan consists of a Pollution Control and Mitigation Plan and a Transportation and Disposal Plan

1.1.2 Roles and Responsibilities

This section outlines the individuals directly involved with the FHC project and their specific responsibilities. Work by Roy F. Weston, Inc. (WESTON) performed under this Site Management Plan will be in cooperation with U.S. Environmental Protection Agency (EPA) to assist the site remediation program.

The following are the Key Project Personnel:

- EPA Work Assignment Manager: Ken Marcy, EPA, Seattle, WA
- EPA Project Officer Patricia Vogtman, EPA, Chicago, IL
- WESTON Program Manager: Jim Burton, WESTON, Vernon Hills, IL
- WESTON Project Manager: Larry Vanselow, WESTON, Seattle, WA
- WESTON Site Leader David Dinkuhn, WESTON, Seattle, WA

1.1.2.1 EPA Region 10 Work Assignment Manager (WAM)

The EPA WAM for this project is Mr. Ken Marcy. Mr. Marcy is the overall project coordinator, decision maker, primary point of contact for general project problem resolution, and has approving authority for the project. He will review and approve the Site Management Plan and subsequent revisions in terms of project scope, objectives, and schedules.

1.1.2.2 WESTON START Project Manager (PM)

The WESTON PM is Mr. Larry Vanselow. Mr. Vanselow has the responsibility for the overall performance of the WESTON team. He will review and approve the Site Management Plan. Mr. Vanselow has overall responsibility for maintaining project budget and schedule. He will also ensure that the Site Management Plan is properly implemented. In the absence of the WESTON PM, the WESTON Site Leader will assume the PM's responsibilities.

1.1.2.3 WESTON Site Leader

The WESTON Site Leader is Mr. David Dinkuhn. Mr. Dinkuhn will provide overall coordination of fieldwork. He will ensure that the final approved version of the Site Management

Plan is implemented correctly and will record any deviations from it. He will be responsible for the execution of decisions and courses of action deemed appropriate by the EPA WAM.

1.1.2.4 WESTON RAC Program Manager and EPA Project Officer

The WESTON RAC Program Manager, Mr. Jim Burton, and the EPA Project Officer, Patricia Vogtman, are responsible for coordinating resources requested by the EPA WAM for the overall execution of the RAC program.

1.2 PROBLEM DEFINITION/BACKGROUND

This section discusses the site background (Section 1.2.1) and site operations (Section 1.2.2).

1.2.1 Site Background

The FHC site is approximately one-half acre in size and was used previously as a chrome plating operation. Chrome plating occurred at the FHC site for about 25 years between 1958 and 1982. FHC, which operated at the site between 1970 to 1982, discharged process wastewater containing hexavalent chromium directly to an on-site dry well.

In 1982, the Washington State Department of Ecology (WDOE) determined that FHC was violating Washington State Dangerous Waste Regulations for disposal of hazardous waste. At that time, chromium concentrations greater than twice the state groundwater cleanup standard of 50 µg/L were detected in groundwater samples from an industrial well located at the Food Machinery and Chemical Corporation (FMC) site approximately 0.5 miles southwest of the site. FHC went out of business shortly after Ecology identified the violation. In December 1982, the site was proposed for inclusion on the National Priorities List (NPL) under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The site was added to the NPL in September 1983.

Releases from FHC operations contaminated groundwater with reported chromium concentrations as high as 300,000 µg/L. At the time the contamination was first detected, a groundwater plume exceeding Washington State groundwater cleanup standards (50 µg/L) extended approximately 1600 ft southwest from the facility. The July 1988 Record of Decision (ROD) for the groundwater operable unit called for extraction of groundwater from the area of greatest contamination (levels of chromium in excess of 50,000 µg/L) via extraction wells, and treatment of extracted groundwater. Groundwater monitoring since initial discovery has shown that the plume has receded. Monitoring in 2000 indicated that the plume exceeding state groundwater cleanup standards extends about 1000 feet south of the site. The change in overall plume size, and the shift in groundwater flow from the site in a southwesterly direction to a more southerly direction is largely due to the discontinued pumping of three large industrial supply wells located at the FMC facility. With the influence of these wells eliminated, the plume is conforming to natural groundwater flow. While monitoring indicates that the plume is receding, it also shows that concentrations beneath the FHC site have remained consistently high over time.

Surface soil concentrations of hexavalent chromium near the FHC building have recently been detected as high as 42 mg/kg. Subsurface concentrations for total and hexavalent chromium have been noted as high as 31,800 mg/kg and 7,506 mg/kg respectively. Contaminated subsurface soils extend beneath the building on the neighboring property. The December 1987 ROD for the soils/source control operable unit called for removal, stabilization and replacement of 7400 cubic yards of soil—or all soils with concentrations greater than 550 mg/kg total chromium (this number was based on a site specific leachate test for protection of groundwater).

Evaluation of these proposed remedies by EPA after the RODs were issued revealed the soils remedy to be ineffective. Groundwater monitoring conducted after the ROD was issued indicated that the contaminated groundwater plume was decreasing in size as down-gradient industrial supply wells located at FMC were taken off line. As the immediate threat of further down-gradient migration of the plume appeared to be in decline, and as local government controls were in place preventing installation of new wells in the aquifer, EPA also began to reevaluate the need for pump and treat as the most appropriate solution for groundwater cleanup.

In October 1994, WDOE conducted an interim removal action of chromium contaminated soil on the property adjacent to and east of the FHC site. Approximately 160 cubic yards were removed and disposed of allowing for redevelopment of the property. Since that time, EPA has continued to monitor groundwater and soils, and evaluate new, innovative cleanup technologies to address the persistently high concentrations in soils and groundwater. In May 2000, EPA finalized a Focused Feasibility Study (FS) which identified and evaluated several new and innovative technologies for addressing the problems at the site. EPA also conducted a treatability study of one new technology evaluated in the Focused FS—ISRM, or In-situ Redox Manipulation.

1.2.1.1 Site Location and Description

This section describes the site location, site description, and site ownership history.

1.2.1.1.1 Site Location

Site Name: Frontier Hard Chrome (FHC)

CERCLIS ID No.: WAD053614988

Location: 113 Y Street
Vancouver, WA 98661

Latitude: 45.621432° North

Longitude: -122.644098° West

Legal Description: Section 25, Township 2N, Range 1E

County: Clark County

1.2.1.1.2 Site Description

The FHC site was a chrome-plating operation located in an industrial area within the Vancouver, WA (**Figure 1-1**, Vicinity Map). The site consists of two building constructed of concrete blocks and/or metal trusses and sheet metal siding (**Figure 1-2**, Site Diagram). The primary land uses surrounding the site include industrial land uses.

1.2.1.1.3 Site Ownership History

The FHC site began operation in 1958 as a chrome-plating operation by Pioneer Plating. The ownership of the site was transferred to FHC in 1970, which operated the site as a chrome-plating operation until closure in 1982. The site was added to the NPL list in September 1983.

1.2.2 Site Operations and Source Characteristics

The FHC has been in operation since 1958. Site operations include chrome-plating operation. Contaminants of concern at the site associated with these operations include hexavalent chromium.

1.3 PROJECT/TASK DESCRIPTION AND SCHEDULE

This section provides the project description (Section 1.3.1) and proposed schedule (Section 1.3.2).

1.3.1 Project Description

This section defines the objectives and scope for performing the pollution control and mitigation activities at the FHC site. The main goals for the pollution control and mitigation activities are as follows:

- Prevent the offsite release of hazardous constituents through the use of this plan and Best Management Practices (BMPs),
- Ensure the proper storage of flammable and combustible materials, and
- Provide emergency response procedures to prevent the release of hazardous constituents,

1.3.2 Schedule

The tentative schedule for implementing the RD/RA at the FHC site is provided below. Adjustments to the implementation dates and the estimated project duration will be made as necessary to account for funding, and variable unforeseen or unavoidable conditions that the field team may encounter. Examples include inclement weather, difficulties in coordinating subcontractor activities, or additional time needed to complete a task.

Activity	Start	Complete
Develop RD Work Plan	10/2001	5/2002
Technology Testing	6/2002	10/2002
Building Demolition Design	5/2002	8/2002
Building Demolition	10/2002	11/2002
ISRM/Surface Area Design	5/2002	12/2002
ISRM Wall Installation	2/2003	5/2003
Source Area Treatment	5/2003	8/2003
Writing of Project Report	6/2003	9/2003
Target Project Completion Date	Not Applicable	9/2003

1.4 SPECIAL TRAINING REQUIREMENTS/CERTIFICATION

No special training requirements or certifications are required for this project except for the 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) class and annual refreshers. Health and safety procedures for WESTON personnel are addressed in the WESTON site-specific health and safety plan. The site-specific heath and safety plan is maintained in WESTON's Seattle office. Included in the plan are descriptions of anticipated chemical and physical hazards, required levels of protection, health and safety monitoring requirements and action levels, personal decontamination procedures, and emergency procedures.

SECTION 2

POLLUTION CONTROL AND MITIGATION PLAN

2.1 EROSION CONTROL AND SEDIMENTATION

The primary purpose of the erosion and sedimentation controls will be to minimize the potential for offsite releases of hazardous constituents from the FHC facility during remedial activities. WESTON will utilize the following techniques to minimize the potential of off-site release of hazardous constituents during the site remediation activities.

2.1.1 Silt Fence

WESTON will construct a silt fence around the perimeter of the FHC site in order to minimize the off-site release of hazardous constituents from erosion. The silt fence will be constructed in accordance with *Best Management Practice (BMP) C233: Silt Fence (Stormwater Management Manual for Western Washington, Vol. II, WDOE, August 2001)*. See **Figure 2-1** for an example of silt fence construction.

2.1.2 Storm Drains

WESTON will protect the local storm drains from sedimentation caused by the flow of stormwater from the FHC site. WESTON will construct a storm drain protection system in accordance with *BMP C220: Storm Drain Inlet Protection (Stormwater Management Manual for Western Washington, Vol. II, WDOE, August 2001)*. See **Figure 2-2** for an example of storm drain protection system.

2.2 CONTAMINATION MIGRATION CONTROL

WESTON will utilize the following techniques to minimize the potential of off-site release of hazardous constituents during the site remediation activities.

2.2.1 Tire Cleaning

WESTON will conduct tire-cleaning activities to minimize the potential for off-site release of hazardous constituents from the site remediation activities. Tire cleaning will be accomplished in accordance with *BMP C105: Stabilized Construction Entrance (Stormwater Management Manual for Western Washington, Vol. II, WDOE, August 2001)*. See **Figure 2-3** for an example of a stabilized construction entrance. WESTON intends to use the existing concrete pad north of the FMC building as a staging area to control transport of soil offsite. In the event that another ingress-egress area is needed, WESTON will construct a stabilized construction entrance, similar to **Figure 2-3**, to be used for site access and the staging of clean transportation vehicles prior to loading. If the stabilized construction entrances proves to be ineffective in controlling the migration of hazardous constituents offsite, then *BMP C106: Wheel Wash (Stormwater*

Management Manual for Western Washington, Vol. II, WDOE, August 2001), or equivalent will be used in conjunction. See **Figure 2-4** for an example of a wheel wash.

2.2.2 Road Cleaning

WESTON may conduct road-cleaning activities on the public streets proximate to the FHC site. WESTON will evaluate the effectiveness of the tire cleaning activities and if evidence of an off-site release of soil from the site is apparent, WESTON will conduct road cleaning activities. Road cleaning will be accomplished through the use of a contract street cleaning service. If needed, WESTON will request that the road cleaning contractor perform the activity in accordance with the *BMPs for Urban Streets (Stormwater Management Manual for Western Washington, Vol. IV, WDOE, August 2001).*

2.2.3 Loading Area in Clean Zone

WESTON will establish loading areas within a clean zone to minimize the potential of offsite releases from vehicle traffic. The planned loading area will consist of the existing concrete pad north of the FMC building or be constructed as per *BMP C105: Stabilized Construction Entrance (Stormwater Management Manual for Western Washington, Vol. II, WDOE, August 2001).*

2.2.4 Contamination Reduction Zones

WESTON will construct contamination reduction zones to minimize the potential of offsite releases from workers and equipment movement. The contamination reduction zones will also establish areas were proper personnel protective equipment (PPE) must be worn by WESTON personnel or subcontractor personnel. For additional information on the contamination reduction zone please see the site-specific Health and Safety Plan (HASP).

2.2.5 Decontamination Areas

WESTON will construct decontamination areas to minimize the potential of offsite release from workers and equipment. For additional information on the decontamination zone please see the site-specific HASP.

2.3 DUST CONTROL

WESTON will conduct dust control activities at the FHC site during the course of the remediation activities. Dust control activities will be accomplished in accordance with *BMP C140: Dust Control (Stormwater Management Manual for Western Washington, Vol. II, WDOE, August 2001)*. The primary means that WESTON will employ for dust control activities will be the wetting of the site with water. Local regulations that require dust control are contained within the Southwest Clean Air Agency (SWCAA) *General Regulations for Air Pollution Sources,* SWCAA 400-040 (8)(a). *"The owner or operator of a source of fugitive dust shall take reasonable precautions to prevent fugitive dust from becoming airborne and shall maintain and operate the source to minimize emissions."* Occupational Safety and Health Act (OSHA)

regulations contained within 29 CFR 1910.1000 limit the fugitive dust concentration to 15 mg/m^3.

2.4 COMPLIANCE WITH STATE AND LOCAL REGULATIONS

2.4.1 National Pollution Discharge Elimination System (NPDES)

WESTON will comply with the substantative requirements of WAC 173-220. Because FHC is a Superfund site, no application for a permit will be filed. However, the EPA WAM will keep WDOE informed of all proposed discharge activities.

2.4.2 Southwest Clean Air Agency Regulations (SWCAA)

WESTON will comply with Southwest Clean Air Agency (SWCAA) 476 regulations. These regulations require an asbestos survey be completed prior to building demolition activities. A *Notification of Demolition and Renovation* will be completed and submitted to the SWCAA prior to conducting demolition activities. If applicable, a *Notification of Intent to Remove or Encapsulate Asbestos* will be completed and submitted to SWCAA prior to conducting demolition activities.

In addition, WESTON will comply with SWCAA 400-040(8) regulation for the control of fugitive dust emissions from the FHC site.

2.4.3 City of Vancouver Ordinances

WESTON will comply with the City of Vancouver ordinances, and will submit the information equivalent to that required in a grading permit prior to disturbance of soil at the FHC site. Street closures are not anticipated during the course of the remediation activities at the FHC site. In the event that WESTON will be required to close a street to complete remediation activities, WESTON will obtain a Street Use Permit from the City of Vancouver.

2.5 AIR MONITORING PLAN

2.5.1 Action Levels and Instrumentation

Action levels are dependent on the nature and type of contamination. Action levels are presented in Site Health and Safety Plan. Air monitoring will be conducted during site activities to evaluate potential chemical hazards; to determine effectiveness of control measures; and to evaluate the Personal Protection Equipment (PPE) requirements.

Real-time monitoring using direct reading instruments as well as air sampling will be used to quantify the presence of airborne hazards. Particulate (dust) monitoring will continue as necessary during building demolition and source area treatment activities to verify worker exposure and/or to document any perimeter particulate concentrations. Particulate monitoring will be performed in previously identified contaminated areas during demolition activities.

Air sampling will be performed at the FHC site perimiter to quantify the levels of airborne contaminants levaing the site. Contaminants of concern at FHC consist of metals, primarily hexavalent chrome

Based upon the concentrations of contaminants in FHC site soil, action levels are not expected to be exceeded, however, site perimeter air sampling and the use of direct-reading instrumentation outlined in the following sections will be used to assure worker safety. Engineering controls in the form of dust suppression and/or ventilation will provide initial and additional protection.

2.5.2 Onsite Dust Monitoring

2.5.2.1 Action Levels

Air monitoring will be conducted to evaluate potential chemical hazards; to determine the effectiveness of control measures; and to evaluate the PPE requirements. Real-time (dust) monitoring using direct reading instruments will be used to quantify the presence of airborne hazards. Monitoring will continue as necessary during demolition and source area treatment tasks to verify worker exposure and/or off-site migration.

If airborne exposure limits are less than ½ the PEL as anticipated, sampling frequency may be reduced. Proposed reductions in air sampling frequency will be discussed with the EPA Project Manager prior to implementation. Sampling will be resumed on a more frequent basis if air monitoring (as described previously) indicates consistent levels above the Action Level.

Respiratory protection for particulate-based contaminants for on-site personnel will be initiated at 2.5 mg/m^3 based upon previous FHC site soil analytical results and WESTON's action level for dust. Engineering controls will be utilized to limit exposure. Action levels may be modified based upon initial sampling results. An amendment to the HASP may be required to modify action levels.

2.5.2.2 Onsite Monitoring Instruments

Real-time monitoring using direct reading instruments will be conducted to identify potential exposure levels. Air monitoring at breathing zones and around the perimeter of the Off-Site Monitoring exclusion zone will be conducted during the field activities. Areas monitored will be chosen to determine worst-case exposure potential. Background readings will be taken in an area upwind. Continuous real-time monitoring for airborne particulates will be conducted using a PDR or DRAM or equivalent.

2.5.2.3 Action Levels

Air will be monitored (real time, dust) at four perimeter locations (3 downwind and 1 upwind) initially on a daily basis. Action levels for total dust will be set at 2.5 mg/m^3. If this level is attained at any time, additional dust suppression will be implemented. Monitoring will continue and if this level cannot be attained, site operations will be shutdown and an evaluation of additional dust suppression techniques and engineering controls will be completed.

Perimeter ambient air samples for quantitative analysis will also be collected initially at three stations along the perimeter of the site, two downwind and one upwind. Samples will be collected initially at these three stations twice per week (during activities that are observed to generate the most notable dust concentrations) for a total of 6 weekly samples. Analysis of the metals concentrations will be used to determine the metals concentration in air. This concentration will then be compared to regulatory limits (NIOSH) to ensure criteria are not exceeded. Based upon the first several weeks of dust sample collection, the frequency of continued monitoring may be reduced upon consultation with EPA.

2.5.2.4 Instrumentation

Real-time monitoring using direct reading instruments for airborne particulates will be conducted using a PDR or DRAM or equivalent.

Personnel sized air-monitoring air pumps will be stationed along the site perimeter. Dust samples will be collected on filters and analyzed for metals. Air sampling systems such as those manufactured by Gillian or equivalent will be used.

2.6 NOISE CONTROL

WESTON will conduct noise control activities as a good faith effort to meet the requirements of Washington Administrative Code (WAC) 173-60. WESTON believes that WAC 173-60-050 (3)(a) exempts the FHC project from the requirements of WAC 173-60-040. The FHC site will be considered a Class C Environmental Designation for Noise Abatement (EDNA) and the adjacent receiving properties will be considered a Class C EDNA. The noise limitations will be set at 70 dBA for activities at the FHC site. Noise levels may exceed the 70 dBA limit as follows:

- 5 dBA for a total of 15 minutes in any one-hour period; or
- 10 dBA for a total of 5 minutes in any on-hour period; or
- 15 dBA for a total of 1.5 minutes in any one-hour period.

In addition, WESTON will conduct noise control activities to comply with the requirements of the Vancouver Municipal Code (VMC), *Section 7.84.050 Public disturbance noise*. The VMC prohibits public disturbance noise between the hours 10:00 PM and 7:00 AM.

2.7 STORAGE AND TRANSFER OF COMBUSTIBLE AND FLAMMABLE MATERIALS

In order to minimize the potential of offsite releases, WESTON will store flammable and combustible materials in accordance *BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers (Stormwater Management Manual for Western Washington, Vol. IV, WDOE, August 2001).*

In addition, WESTON will store combustible and flammable materials in accordance with the Uniform Fire Code (UFC) 1991. The UFC requirements are associated with storage amounts, storage area location, and bonding/grounding of containers used to transfer material.

2.7.1 Storage of Combustible Materials

The storage of Class III combustible materials will be done in accordance with Article 79 of the 1991 UFC.

2.7.1.1 Storage Limitations

The storage of Class III combustible materials in containers will be limited to 60 gallons in a metal drum and 660 gallons in a portable tank in accordance with *Table No. 79.105-A—Maximum Size of Containers and Portable Tanks* of the 1991 UFC. In accordance with *Table No. 79.403A—Outdoor Liquid Storage in Containers and Portable Tanks* of the 1991 UFC, the total amount of Class III combustible materials that will be stored on site will not exceed 22,000 gallons per pile for containers and 44,000 gallons per pile for portable tanks.

2.7.1.2 Storage Area Location

The storage of Class III combustible materials at the FHC site will be completed in accordance with *Table No. 79.403A—Outdoor Liquid Storage in Containers and Portable Tanks* of the 1991 UFC. Container pile height limitations for Class III combustible materials will be 18 feet. Portable tank pile height limitations for Class III combustible materials will be 14 feet. The minimum distance between any Class III combustible materials storage pile will be 5 feet. The minimum distance to the property line for any Class III combustible materials storage pile will be 10 feet. All Class III combustible materials storage piles will be within 150 feet of a 20-foot-wide access way. Class III combustible materials will not be stored adjacent to buildings.

2.7.2 Storage of Flammable Materials

The storage of Class I-B flammable materials will be done in accordance with Article 79 of the 1991 UFC.

2.7.2.1 Storage Limitations

The storage of Class I-B flammable materials in containers will be limited to 5 gallons in metal or approved plastic, 60 gallons in a metal drum and 660 gallons in a portable tank in accordance with *Table No. 79.105-A—Maximum Size of Containers and Portable Tanks* of the 1991 UFC. In accordance with *Table No. 79.403A—Outdoor Liquid Storage in Containers and Portable Tanks* of the 1991 UFC, the total amount of Class I-B flammable materials that will be stored on site will not exceed 2,200 gallons per pile for containers and 4,400 gallons per pile for portable tanks.

2.7.2.2 Storage Area Location

The storage of Class I-B flammable materials at the FHC site will be completed in accordance with *Table No. 79.403A—Outdoor Liquid Storage in Containers and Portable Tanks* of the 1991 UFC. Container pile height limitations for Class I-B flammable materials will be 12 feet. Portable tank pile height limitations for Class I-B flammable materials will be 14 feet. The minimum distance between any Class I-B flammable materials storage pile will be 5 feet. The minimum distance to the property line for any Class I-B flammable materials storage pile will be 50 feet. All Class I-B flammable materials storage piles will be within 150 feet of a 20-foot-wide access way. Class I-B flammable materials will not be stored adjacent to buildings.

2.7.3 Transfer of Combustible and Flammable Materials

WESTON is anticipating that the FHC project may require the installation of temporary combustible and/or flammable tanks for the dispensing of fuel to vehicles and machinery used onsite. WESTON will comply with the 1991 UFC Sections 79.1001-1007 for the transfer of combustible and/or flammable materials. All areas used to store combustible and/or flammable materials will be kept free of weeds and extraneous combustible materials. No open flames or smoking will be permitted in combustible and/or flammable material storage areas. The markings "FLAMMABLE—KEEP FIRE AND FLAME AWAY" will be placed on tanks and containers used to store combustible and/or flammable materials. An additional marking "KEEP 50 FEET FROM BUILDING" will be placed on tanks used to store combustible and/or flammable materials. Tanks used to store combustible and/or flammable materials must be installed to meet the spill control, drainage control, and diking requirements of Section 79.1006(f). WESTON will comply with the fire protection requirements of Section 79.1006(g). In addition, if WESTON elects to dispense fuel from a tank vehicle then the compliance with Section 79.1007 will be required. If at all possible, WESTON will require contractors to use contract fuel delivery services instead of on-site fuel storage.

2.8 CONTINGENCY PLAN

2.8.1 Purpose

The objectives of WESTON's FHC Contingency Plan are to minimize and prevent hazards to public health or the environment from fires, explosions, or any unplanned, sudden or non-sudden release of dangerous wastes or dangerous waste constituents to air, soil or surface water. This plan also applies to the management of hazardous materials in which a release may require preventative and responsive actions on the part of WESTON. A current copy of this plan is kept at the facility at all times during the course of remediation activities.

2.8.2 General Facility Description

2.8.2.1 Facility Identification, Location and Site Plan

Facility Contractor's Office

Frontier Hard Chrome (FHC)	Roy F. Weston, Inc. (WESTON)
113 Y Street	190 Queen Anne Ave. N, Suite 200
Vancouver, WA 98661	Seattle, WA 98109
EPA ID No. WAD053614988	Phone (206) 521-7600

The FHC site is located in the southwestern part of the State of Washington, in the City of Vancouver. The site is approximately one-half mile north of the Columbia River and covers about one-half acre. The FHC site is located at 113 Y Street in the City of Vancouver, Clark County, Washington, at Latitude 45.621432 and Longitude -122.644098. Refer to **Figure 1-1**, Vicinity Map. The major access route to the facility is from north or southbound Interstate 5; exit onto eastbound WA-14 (Exit No. 1A); exit onto SE Columbia Way (Exit No. 1); turn left onto SE Columbia Way; stay straight onto Columbia House Boulevard; turn left onto E Grand Boulevard; turn left onto E 1st Street; turn right onto E Y Street. The major route from the facility is from Y Street turn right onto E Grand Boulevard; right onto Columbia House Boulevard; merge onto WA-14 W; exit or merge onto north or southbound Interstate 5. **Figure 1-1** shows the access routes to the FHC site and **Figure 1-2** shows the facility site diagram and operational areas.

2.8.2.2 Facility Operations

Activities formerly conducted at the FHC site include chrome-plating operations. The known contaminates at the FHC site include hexavalent chromium. The source of the hexavalent chromium is associated with the chrome-plating activities and waste disposal practices formerly conducted at the site.

The current project that WESTON will be conducting at the FHC site include the demolition of buildings, the auguring of soil, the addition of reactants to contaminated soil, the installation of groundwater wells, and the addition of reactants to the well to construct a in-situ barrier wall.

2.8.2.3 Dangerous Wastes Handled at the Facility

Dangerous waste that WESTON expects to encounter at the FHC site will include soil contaminated with hexavalent chromium. In addition, petroleum products (e.g. gasoline, diesel fuel, and lubricating oils) and a corrosive treatment chemical will be utilized onsite during remediation activities.

2.8.3 Emergency Coordinator Responsibilities

40 CFR 264.52(d), 264.55, 264.56
WAC 173-303-350(3)(d), 360(1)

The Emergency Coordinator (EC) is responsible for coordinating emergency response procedures in the event of any fires, explosions, unplanned releases, spills, or other emergency situations occurring at the facility. The EC's duties include the following:

- Assure personnel safety,
- Assess the nature, severity and material(s) involved in the situation,

- ? Initiate the Contingency Plan if appropriate and evacuation of the facility if necessary,
- ? Direct containment and control operations,
- ? Contact emergency agencies and authorities, and
- ? Initiate clean-up and emergency equipment replenishment operations (cleaning and restocking).

The EC is thoroughly familiar with all aspects of the Contingency Plan and all operations, activities, the locations and properties of wastes handled, the location of all records within the facility and the facility layout. The EC or his/her designee has the complete authority to commit needed resources of the company in the event of an emergency (refer to Appendix A, Letter of Authorization—Emergency Coordinators).

The on-duty EC can be reached by telephone or cellular phone. **Table 2-1** lists the names, addresses, and office, home telephone, and cellular phone numbers of the Primary Emergency Coordinator and Alternates in the order in which they assume Emergency Coordinator responsibilities.

2.8.4 Implementation of the Contingency Plan

40 CFR 264.51
WAC 173-303-350(1)

Where public health or the environment are threatened, the following emergencies would call for the implementation of the Contingency Plan:

- ? Fire/explosion anywhere on premises.
- ? On-site and off-site releases of dangerous wastes or dangerous waste constituents.
- ? The occurrence of natural disasters.

Listed below are detailed examples of the emergency incidents described above.

- ? Fire/Explosion
  - — A fire in which the use of water or water and chemical fire suppressant could result in contaminated runoff.
  - — A fire which causes the release of toxic fumes.
  - — A fire which spreads and could possibly ignite stored materials/chemicals in other locations on site.
  - — A fire which could cause heat-induced explosions of materials/chemicals on site. The potential for explosion poses hazards of flying fragments, ignition of other hazardous materials and their release.
- ? Material Release
  - — A sudden or non-sudden release which poses a threat to public health or the environment or is an uncontrolled release of a reportable quantity of a hazardous substance.

- — A release on site which has been contained, yet the potential exists for contamination of soil, or of surface or groundwater.
- — A release from containment, resulting in soil or surface water or potential groundwater contamination.
- — An uncontrolled release originating from a damaged shipment which has arrived at the plant in such a condition.
- — A release of gas to the air originating from an explosion or reaction of materials.

? Natural Disaster

- — A release or potential for release of hazardous materials caused by earthquake or severe flooding conditions which damage equipment, foundations, structures, or tanks.
- — A release or potential for release of hazardous materials caused by a severe storm involving high velocity winds or lightning which damage or overturn tanks.

2.8.5 Emergency Response Procedures

2.8.5.1 Incident Response, Assessment and Identification

40 CFR 264.56(a), (b), (c), (d)
WAC 173-303-360(2)(a), (b), (c), (d)

2.8.5.1.1 Employee Response

Any employee, when faced with an actual or imminent emergency, will first attend to their own safety. Then, if it is safe to do so, he/she will attend to other employees requiring immediate assistance. The employee also will notify all facility personnel by means of alarm signals listed in **Table 2-2**. Locations of telephones and emergency alarms are shown in **Figure 2-6**.

In all emergency situations (regardless of size or extent), the employee involved in or discovering the situation will contact the Emergency Coordinator (EC) and provide information as to the location, nature, and extent of the incident. The names, addresses, and telephone numbers of the Primary and Alternate Emergency Coordinators are found in **Table 2-1**. The Emergency Response Notification Flow Chart (**Figure 2-5**) outlines the proper response/notification procedures.

Section 2.8.5 lists WESTON's emergency response procedures for the containment and control of emergency situations including injured or endangered employees, fires and explosions, spills and releases, and damaged shipments.

2.8.5.1.2 Emergency Coordinator Response

The EC will assess the situation immediately after an incident occurs (or immediately on arrival at the site if not on site at the time of the incident) to determine the appropriate emergency response actions, including implementation of the Contingency Plan where public health or the environment are threatened. The EC will assure that the WESTON procedures for containment and control of emergency situations are initiated (see Section 2.8.5.3, Containment and Control

of Emergencies), and, if necessary, the EC will contact outside emergency service providers. In the event of any emergency (regardless of size or extent), the EC will contact WESTON's PM and adhere to WESTON's internal incident reporting requirements.

The EC will evaluate the severity and nature of the incident, and the character, source, quantity, and area extent of the released materials will be identified. The Emergency Response Notification Flow Chart (**Figure 2-5**) outlines the proper response/notification procedures.

The selection of appropriate response actions will depend on the consideration and assessment of the following factors:

? The severity and nature of the incident: fire, explosion or material release.

? The potential of severe consequences: what is the location of the incident and to what extent might other areas become involved; are persons off site in danger; will surrounding property be damaged or contaminated; is there a threat to surface and groundwater?

? The current weather conditions: temperature, wind direction and velocity and how response activities might be affected.

Identification of the character, source, quantity, and areal extent of the released materials can be made through the following methods and sources of information:

? Eyewitness accounts: employee discovering emergency,
? Visual inspection: areal extent, noted fumes, odors, reactions,
? Source: origin of leak,
? Tank involved: type of waste stored or treated,
? Containers involved: labels or placards,
? Location of incident: operational or segregated storage area,
? On-site records: manifests, analytical data, MSDS sheets.

If the proper identification cannot be made by using available information, a sampling and analysis plan can be initiated to quantify the extent of contamination and associated extent of clean up (see Appendix B, Generic Clean Up Plan for Release to Soil).

2.8.5.1.3 Security Personnel Response

Private security personnel may be present at the facility during non-operational hours. The security personnel are instructed to attempt first to contact the Primary Emergency Coordinator then the Alternates in the order they are listed on **Table 2-1**.

Security personnel are instructed to contact the EC in event of unauthorized entry, power outage, severe weather events, evidence of leaks or spills, alarms, or other unusual situations both on site and/or on neighboring property that could potentially impact the facility.

2.8.5.2 Notification

40 CFR 264.56(d)
WAC 173-303-145,360(2)(d), (e)

The EC will contact the WESTON's PM and adhere to WESTON's internal incident reporting requirements in the event of any emergency regardless of size or extent. The EC will supply specific information as to the type, quantity, and location of released material. WESTON's PM together with the EC will evaluate this information. If it is determined that the facility has had a hazardous substance release, fire, or explosion which could threaten public health or the environment or is an uncontained release of a reportable quantity of a hazardous substance, the proper local, state, and federal agencies will be notified immediately following this determination by WESTON's PM. The EC immediately will contact these agencies if it is readily determined that the emergency threatens public health or the environment outside the facility. The name and phone numbers of these agencies are listed below. The Emergency Response Notification Flow Chart (**Figure 2-5**) outlines the proper response/ notification procedures.

- Washington State Department of Ecology Spill Line (360) 407-6300
- Local Emergency Response Committee (Dial 911-Fire Department)
- State Emergency Response Commission (800) 258-5990
- National Response Center (800) 424-8802

Specific information concerning the spill will need to be provided to the WDOE and Local and State Emergency Response Committees. An example Emergency Information Reporting Form is located in Appendix C.

Notification to the WDOE will include the following:

- Name and phone number of reporter,
- Name and address of facility,
- Time and type of incident (fire, release),
- Name and the quantity of material(s) involved to the extent known,
- Extent of injuries, if any, and
- Possible hazards to public health or the environment outside the facility.

Pursuant to 40 CFR 355.40(b)(1), (2), notification to Local and State Emergency Response Committees will further include, to the extent known:

- An indication of whether the substance is an extremely hazardous substance as defined by Appendices A and B of 40 CFR 355,
- Duration of the release,
- Medium or media into which the release occurred,
- Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for the exposed individuals,

- ? Proper precautions to take as a result of the release, including evacuation,
- ? Names and telephone numbers of person(s) to be contacted for further information.

2.8.5.3 Containment and Control of Emergencies

40 CFR 264.52(a), 264.56(h)(1), 264.171, 264.196
WAC 173-303-145,350(3)(a), (b), 360(2)(i)(i), 630(2), 640(4)(c)

The sections that follow discuss WESTON's emergency response procedures to minimize possible impact of emergency incidents on public health or the environment. Emergency response procedures are described for the containment and control of emergency situations including injured or endangered employees (Section 2.8.5.3.1), fires and explosions (Section 2.8.5.3.2), spills and releases (Section 2.8.5.3.3), and damaged shipments (Section 2.8.5.3.4). A written record will be kept of all incidents and the response. The reporting form will be equivalent to that shown in Appendix C, Emergency Information Reporting Form. The forms will be maintained as part of the facility operating record. A generic sampling and analysis plan to quantify the extent of contamination is presented in Appendix B.

The EC will commit all necessary resources of the company and also may call a contract clean-up service to assist in the control, containment, and clean up of a release. The EC will coordinate the activities of the emergency response agencies.

Table 2-3 lists the type, location, and description of the emergency equipment maintained at the facility. **Figure 2-6** shows the locations of the emergency equipment and the locations of the fire control equipment.

2.8.5.3.1 Injured or Endangered Employees

- ? Alert others who may be endangered, call for backup, use alarm signals (**Table 2-2**).
- ? Use appropriate protective clothing and equipment.
- ? Apply first aid; first aid kits are located in the contractor's trailer (see **Figure 2-6**).
- ? Phone 911 if ambulance is needed.
- ? Immediately notify EC (**Table 2-1**).

2.8.5.3.2 Fires and Explosions

- ? Shout "FIRE" warning.
- ? Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- ? Cut off source, close valves, shut down pumps/ equipment.
- ? Use appropriate protective clothing and equipment.
- ? Control small fires with extinguishers located in the contractor's trailer (**Figure 2-6**).
- ? If fire is not readily and easily controlled, phone 911.
- ? Immediately notify EC (**Table 2-1**).
- ? Attempt to contain spills or runoff by use of absorbent material and diking.
- ? Remove or isolate incompatible wastes, containers, and other materials away from fire when possible.

2.8.5.3.3 Spills and Releases

Load/Unload Areas

- ? Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- ? Cut off source, close valves, shut down pumps, eliminate ignition sources.
- ? Immediately notify EC (**Table 2-1)**.
- ? Use appropriate protective clothing and equipment.
- ? Attempt to contain spills or runoff by use of absorbent material or by diking with soil/sand.
- ? Dike area around storm drains.
- ? Contain and prevent further migration of any visible release to the environment outside of containment, provide for removal and proper disposal of visibly contaminated soil or surface water.

Containers (drums)

- ? Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- ? Use appropriate protective clothing and equipment.
- ? Eliminate ignition sources.
- ? Locate source, attempt to control leak so container can be moved and isolated.
- ? Immediately notify EC (**Table 2-1**).
- ? Place container in overpack drum, if necessary.
- ? Use absorbent materials to contain spill and prevent exposure to incompatible materials.
- ? After containment is assured, transfer leaky container contents to another specification drum. Spill residues and clean up materials are to be drummed as well.
- ? Contain and prevent further migration of any visible release to the environment outside of containment; provide for removal and proper disposal of visibly contaminated soil or surface water.

Tanks

- ? Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- ? Cut off source to tank, close valves, shut down pumps, eliminate ignition sources.
- ? Immediately notify EC (**Table 2-1**).
- ? Use appropriate protective clothing and equipment.
- ? Provide for containment of spill if secondary containment berms have been damaged.
- ? Contain and prevent further migration of any visible release to the environment outside of containment, provide for removal and proper disposal of visibly contaminated soil or surface water.

- After quantity and character of spill has been determined, transfer remaining contents of leaking tank and spilled material in sumps or bermed area to an appropriate storage/treatment tank.
- Immediately remove tank involved in spill or release from service if tank is leaking or unfit for use.
- Assess reason for leak or rupture.
- Procedures for tank repair:
  - Transfer remaining material from tank to another compatible tank.
  - Air ventilate for 24 hours.
  - Use volatile organic vapor detector to verify no volatile vapors are present. WESTON's confined space entry procedures will be adhered to in the event of a tank entry.
  - For internal repairs, clean tank with wire brush, pressure washer, or steam cleaner (for organics). Capture rinsate water for treatment.

Transfer Lines and Piping

- Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- Cut off flow, close valves, shut down pumps.
- Use appropriate protective clothing and equipment.
- Immediately notify EC (**Table 2-1**).
- After quantity and character of spill has been determined, transfer spilled material in sumps or bermed area to an appropriate storage/treatment tank.

Releases to Air

- Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- Move people from downwind.
- Immediately notify EC (**Table 2-1**).
- Use appropriate protective clothing and equipment.
- Eliminate ignition sources.
- Control emissions by cutting off source.

Seismic Event

- Alert others who may be endangered, call for back up, notify EC and corporate personnel.
- Use appropriate protective clothing and equipment.
- If a release has occurred, cut off source, contain and control.
- Assess damage to equipment and containment structures.
- If necessary, transfer wastes to an authorized off-site facility.

Flooding Conditions

- Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).

- ? Use appropriate protective clothing and equipment.
- ? Eliminate ignition sources, shut down operations.
- ? Immediately notify EC (**Table 2-1**).
- ? Use diking to prevent flooding of and around buildings and structures where necessary.
- ? Use portable pumps to remove excess water from sumps and/or secondary containment areas; pump to appropriate storage/treatment tank or tank truck.

Freezing Conditions

- ? Purge all piping with air to displace liquids and prevent freezing of pipes.
- ? Close valves at tanks and close valves throughout system to isolate as much of piping system as possible should breakage due to freezing occur.
- ? Wrap insulation (e.g., fiberglass, cloth) around tank valves for protection against freezing.
- ? Make empty tankage on site available, or arrange for temporary portable tankage to receive any spilled material as a result of freezing.
- ? If a spill or release appears likely despite the foregoing preventive measures, notify EC (**Table 2-1**). Also notify EC of a resulting spill or release of any kind.
- ? Should a spill/release occur as a result of freezing conditions, follow spill/release response procedures described in the preceding scenarios.

2.8.5.3.4 Damaged Shipments

Damaged or leaking shipment control procedures will be initiated when:

- ? Further transportation would present a hazard to public health or the environment.
- ? The shipment presents an unreasonable hazard to facility operations, or to facility personnel.

Control procedures are as follows:

- ? Alert others who may be endangered, call for back up, use alarm signals (**Table 2-2**).
- ? Use appropriate protective clothing and equipment.
- ? Determine if leak can be stopped readily.
- ? Immediately notify EC (**Table 2-1**) who will call in contractor clean-up/control assistance as needed. The contractor will repackage the material to be suitable for transport using appropriately licensed transportation.
- ? Attempt to contain spills or runoff by use of absorbent materials.
- ? Contain and prevent further migration of any visible release to the environment outside of containment, provide for removal and proper disposal of visibly contaminated soil or surface water.4

2.8.5.4 Prevention of Recurrence

40 CFR 264.56(e), (f), 264.56(h)(1)
WAC 173-303-360(2)(f), (g), 360(2)(i)(i)

The EC will take all necessary steps to ensure that a secondary release, fire, or explosion does not recur after the initial incident. The EC will ensure that no wastes that may be incompatible with the released material will be treated or stored in the affected area.

If the facility stops operations in response to a fire, explosion or release, the EC will monitor associated tanks for leaks, pressure build up, gas generation, or leaks and for ruptures in valves, pipes, or other equipment until the emergency has ended and normal operations can resume.

The EC together with the assistance of WESTON's PM will evaluate the incident to understand why and how the incident occurred and what future modifications can be initiated to prevent a recurrence of the same or a similar situation. Evaluations will include equipment design, operational procedures, response tactics and personnel safety.

2.8.6 Emergency Equipment

40 CFR 264.52(e)
WAC 173-303-350(3)(e)

Table 2-3 lists the type, location, and description of emergency equipment maintained at the facility. **Figure 2-6** shows the locations of emergency equipment and the locations of fire control equipment. Quantities of emergency equipment listed in **Table 2-3** represent minimum stock quantities.

2.8.7 Post-Emergency Procedures

2.8.7.1 Storage and Treatment of Released Materials

40 CFR 264.56(g), 264.56(h)(1)
WAC 173-303-360(2)(h), 360(2)(i)(i)

Once the emergency situation has ended, the EC will initiate the proper clean up, storage, and treatment of the released material and residues. This will occur as soon as possible in order to minimize potential danger to public health or the environment. The EC also will check to be sure that incompatible wastes are not treated or stored in the affected area while clean up and decontamination procedures are underway.

Released materials within the secondary containment areas of the facility and loading/unloading pads will be pumped to compatible storage or treatment tanks. Leaking containers will be segregated and placed in overpack drums if necessary. The released material and the contents of the leaking drums will be transferred to appropriate containers for storage.

Spill residues and clean-up materials such as absorbents, diking material, and protective clothing will be consolidated for storage and off-site disposal. Water from fire control or flooding will be consolidated for storage and off-site disposal.

2.8.7.2 Equipment Decontamination and Maintenance

40 CFR 264.56(h)(2)
WAC 173-303-360(2)(i)(ii)

The EC is responsible for initiating and overseeing post-emergency equipment replenishment, maintenance and inspection prior to resuming operations in the affected area. The entire facility will be inspected after a seismic event.

All equipment used during the emergency will be decontaminated and readied for future use. Decontamination will be done by steam cleaning and/or triple washing with an appropriate cleaner. All rinsate will be contained and treated on site. Fire extinguishers will be recharged and personnel protective equipment and absorbent materials replenished.

The emergency equipment available on site is listed in **Table 2-3**.

2.8.7.3 Reactivation of Activities in the Affected Area

40 CFR 264.56(i)
WAC 173-303-360(2)(j)

This regulation specifies that before operations are resumed in the affected area(s) of the facility, all emergency equipment used for the emergency must be cleaned and fit for its intended use, and no waste that may be incompatible with the released material may be treated, stored, or disposed of until clean-up procedures are completed**.**

2.8.7.4 Personnel Debriefing

The EC will conduct debriefings of facility personnel and local authorities to assess the effectiveness of the preparedness and prevention measures, response activities, control, and evacuation procedures related to the incident. Based on this review, the Contingency Plan will be evaluated and updated as needed.

2.8.8 Coordination

40 CFR 264.37, 264.52(c), 264.53(b)
WAC 173-303-340(4), 350(3)(c), 350(4)(b)

WESTON has identified local emergency response providers and state and local emergency response teams. Public agencies and emergency service providers are listed below along with their addresses, telephone numbers, and summary statements.

City of Vancouver Fire Department	DIAL 911—EMERGENCY
District 5, Station 86	(360) 892-4323
400 E 37th Street	
Vancouver, WA 98661	

The City of Vancouver Fire Department is capable of assisting in hazardous materials response and has general fire fighting capabilities. Medical response, hospital, and police are contacted as needed via the 911 system for injury or evacuation emergencies. In the event of an emergency

requiring evacuation, such decisions will be made and implemented by the fire department after consultation with the Emergency Coordinator.

City of Vancouver Police Department — DIAL 911—EMERGENCY
300 W 13th Street — (360) 696-8292
Vancouver, WA 98661

The City of Vancouver Police Department will provide assistance with traffic and security control in the event of an emergency and will assist in the evacuation of neighboring areas should evacuation be necessary.

Southwest Washington Medical Center
400 NE Mother Joseph Place — (360) 256-2000
P.O. Box 1600
Vancouver, WA 98668

The Southwest Washington Medical Center will provide hospital emergency care to persons exposed to hazardous materials at the facility and to persons injured as a result of an accident or fire.

Washington State Department of Ecology — (360) 407-6300
Southwest Regional Office — 24-HOUR EMERGENCY
300 Desmond Drive
Lacey, WA 98503

The Washington State Department of Ecology will be contacted immediately in the event of a reportable spill or release to the environment. All necessary information will be provided as per WAC 173-303-360 and WAC 173-303-145.

Southwest Clean Air Agency (SWCAA) — (360) 574-3058
1308 NE 134th Street
Vancouver, WA 98685

SWCAA will be contacted in the event of a gaseous release in violation of an ambient air quality standard, or such that the release is injurious to human health.

Foss Environmental Services Co.
7440 W. Marginal Way South — (206) 767-0441
Seattle, WA 98108

Foss Environmental Services Co. will to provide emergency response services in the event of an incident beyond the response capabilities of WESTON personnel and equipment.

2.8.9 Evacuation Plan

40 CFR 264.52(f)
WAC 173-303-350(3)(f)

In the event a fire or release of a hazardous material could endanger the lives of persons in and outside the facility premises, evacuation will occur according to procedures outlined below. **Figure 2-7** shows exit routes and assembly areas to be used during evacuation.

? All personnel will be immediately notified by verbal or visual instruction or by audible signal of an emergency requiring evacuation to the primary or alternate assembly area (see **Table 2-2**, Alarm Signals).

? The primary assembly area is west across Y Street in the parking area; if this area is downwind of potentially hazardous emissions, or if the way is blocked by releases of hazardous waste or by fire, the alternate assembly area by the water tank adjacent to 1st street southeast of the FHC site will be utilized (See **Figure 2-7**).

? At the assembly area, the EC or designee will account for all persons by employee head count and visitor logs.

? Call 911—Emergency.

? The City of Vancouver Fire Department in conjunction with the EC will determine the need to evacuate beyond the facility premises.

? No one will re-enter the facility during evacuation conditions without the permission of the EC and without the proper protective clothing and equipment.

? Approval of the safe re-occupancy of the facility will be determined by the EC in consultation with the responding emergency service agencies.

2.8.10 Incident Reports

40 CFR 264.56(j), 264.196(d)
WAC 173-303-145, 360(2)(j), (k), 640(7)(d)(iii)

After an emergency episode requiring the implementation and notification outlined in the Contingency Plan, WESTON will complete the following notification requirements:

? The Emergency Coordinator will immediately notify appropriate agencies of a reportable release, following procedures described in Section 2.8.5.2, Notification. This includes required notification of a reportable quantity release to the Local Emergency Response Committee and the State Emergency Response Commission as required by 40 CFR 355.

? As required by WAC 173-303-360(2)(k), the Emergency Coordinator will note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan. WESTON will submit to WDOE, within 15 days of the incident, a written report detailing the following:

— Name, address, and telephone number of facility owner or operator,
— Name, address, and telephone number of facility,
— Date, time and type of incident (e.g. fire, explosion),

? Cause of the incident,

? Name and quantity of material(s) involved,

? Extent of injuries, if any,

- An assessment of actual or potential hazards to public health or the environment, where applicable,
- Estimated quantity and disposition of recovered material(s) that result from the incident, and
- Measures taken to prevent recurrence of this type of incident.

- WESTON will submit in writing as soon as possible, information as outlined in 40 CFR 355.40(b)(1) to the Local and State Emergency Planning Committees. The information shall include an update regarding:
  - The chemical name of substance released,
  - Whether or not the substance is an Extremely Hazardous Substance,
  - An estimate of the quantity released into the environment,
  - The time and duration of the release,
  - The medium or media into which the release occurred,
  - Any known or anticipated acute or chronic health risks associated with the emergency and (where appropriate) advice regarding medical attention necessary for exposed individuals,
  - Proper precautions to take as a result of the release, including evacuation,
  - Names and phone numbers of persons to contact,
  - Summary of actions taken to respond to and contain the release,
  - Summary of any known acute or chronic health risks, and
  - Any advice regarding medical attention necessary for exposed individuals.
- Within 30 days of detection of a release to the environment from the failure of a tank system or secondary containment system, a report will be submitted to WDOE containing the following information:
  - Likely route of migration of the release,
  - Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate),
  - Results of any monitoring or sampling conducted in connection with the release (if unavailable within 30 days, data to be submitted as soon as becomes available),
  - Proximity to downgradient drinking water, surface water, and populated areas, and
  - Description of response actions taken or planned.
- WESTON will maintain a log of all incidents, accidents, spills and releases, and investigations of such. A reporting form equivalent to that shown in Appendix C is completed for each type of event specified above. The forms are maintained as part of the facility operating record.

2.8.11 Amendments to Contingency Plan

40 CFR 264.54
WAC 173-303-350(5)

The Contingency Plan will be reviewed and amended for the following reasons:

- ? Applicable regulations or the facility permit are revised.
- ? The plan fails in an emergency.
- ? The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency.
- ? The list of Emergency Coordinators changes.
- ? The list of emergency equipment changes.

SECTION 3

TRANSPORTATION AND DISPOSAL PLAN

3.1 INTRODUCTION

The purpose of this section is to properly identify, classify, package, transport, and dispose/recycle of waste generated at the FHC site during remedial activities. WESTON is expecting the generation of both hazardous waste and non-hazardous waste from the FHC site.

3.2 WASTE CHARATERIZATION

3.2.1 Types of Wastes

WESTON expects the types of waste generated at the FHC site to be as follows:

- Concrete blocks from building demolition,
- Contaminated concrete blocks from building demolition,
- Concrete from building foundation,
- Contaminated concrete from building foundation,
- Scrap metal from building demolition,
- Soil cuttings from well installation,
- Purge water from well development
- Contaminated soil, and
- Wooden pilings from building demolition.

3.2.2 Identification of Wastes

WESTON will characterize waste generated at the FHC site in accordance with the 40 Code of Federal Regulations (CFR) Part 261 and State of Washington Dangerous Waste Regulation, Washington Administrative Code (WAC) 173-303-082—100. A representative sample will be obtained from the various waste streams generated at the FHC site. Waste samples will be sent to a laboratory that has been accredited in accordance with WAC 173-50. WESTON suspects that the majority of the waste streams generated at the FHC site will not have metal contamination to the extent that the material will be classified as hazardous waste. Samples suspected of metal contamination will be analyzed for TCLP-Metals in accordance with SW-846.

3.3 WASTE DISPOSAL REQUIREMENT

Waste disposal will be done in accordance with the Washington State Dangerous Waste Regulations contained within WAC 173-303.

3.3.1 Allowable Methods of Disposal of Wastes

Due to the nature of the hazardous waste that WESTON suspects to be generated at the FHC site (concrete), the preferred disposal options include the macro-encapsulation of the hazardous waste and subsequent disposal within a Subtitle C landfill.

Non-hazardous wastes generated at the FHC site may be disposed within a Subtitle D landfill, recycled, or beneficially reused.

3.3.2 U.S. EPA CERCLA Waste Acceptability Rule

WESTON will assure that hazardous waste sent off-site for disposal will be sent to a facility that has been approved by EPA is accordance with the requirements of 40 CFR Part 300.

3.4 WASTE STORAGE REQUIREMENTS

3.4.1 Marking of Wastes

In accordance with 40 CFR 262.32 and WAC 173-303-190, WESTON will mark containers of hazardous waste with the following statement and information:

- HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact eh nearest police or public safety authority or the U.S. Environmental Protection Agency,
- Generator's name and address, and
- Manifest Document Number.

3.4.2 Storing of Wastes

WESTON will comply with the requirements of 40 CFR 262.34 and WAC 173-303-200. Hazardous waste will be accumulated on-site for a period of 90 days or less. WESTON will comply with the requirements of 40 CFR 265.170—265.178 and WAC 173-303-630(2), (3), (4), (5), (6), (8), (9), (10), and (11). Hazardous waste will be placed in a container that is in good condition. If a leak develops during the storage of the waste then WESTON will transfer the waste to a container that is in good condition. Hazardous waste will be placed in a container that is made of or lined with materials that are compatible with the hazardous waste to be stored. Containers will remain closed, except when adding or removing waste from the container. WESTON will conduct weekly inspections of container of hazardous waste to assure that the containers are in good condition. Incompatible wastes will not be stored together at the FHC site. Incompatible wastes will be separated by means of diking, berms, walls, or other devices.

Ignitable or reactive wastes are not expected to be generated at the FHC site. If ignitable or reactive wastes are generated then WESTON will store these waste at least 50 feet from the property line.

3.5 PAPERWORK REQUIREMENTS

3.5.1 Uniform Hazardous Waste Manifest

In accordance with 40 CFR 262.20 and WAC 173-303-180(1), WESTON will utilize the Uniform Hazardous Waste Manifest (Manifest), EPA Form 8700-22 and, if necessary, EPA Form 8700-22A, for shipments of hazardous waste from the FHC site. If the hazardous waste from the FHC site is to be delivered to a state that has a specific manifest then the receiving state manifest will be utilized in accordance with applicable state regulations.

3.5.1.1 Use of the Manifest

In accordance with 40 CFR 262.23 and WAC 173-303-180(3), WESTON will sign the manifest by hand for EPA (as representative), obtain a handwritten signature and date of delivery of the initial transporter, retain one copy, in accordance with 40 CFR 262.40(a) and WAC 173-303-180(3), and provide the initial transporter with the remaining copies of the manifest.

3.5.1.2 Waste Shipment Tracking and Exception Reporting

WESTON will track shipment of hazardous waste from the FHC site to the designated receiving facility. A copy of the completed manifest with a signature from the receiving facility will be required to confirm delivery of hazardous waste shipment. In accordance with 40 CFR 262.42(a) and WAC 173-303-220(2), if a copy of the manifest with a handwritten signature from the receiving facility is not received within 35 days of the date that the waste was accepted by the initial transporter, then WESTON will determine the status of the shipment. If a copy of the manifest with a handwritten signature from the receiving facility is not received within 45 days, then WESTON will submit an exception report including a legible copy of the manifest and a cover letter indicating the efforts taken by WESTON to locate the waste and the results of those efforts.

3.5.2 Land Disposal Restriction Notification

WESTON will comply with the requirements of 40 CFR Part 268. Underlying hazardous constituents will be identified and communicated to the disposal facility. The most likely method of communicating underlying hazardous constituents will be the completion of a land disposal restriction notification as provided by the disposal facility. WESTON does not anticipate that any underlying hazardous constituents will be present in the hazardous waste generated at the FHC site.

3.5.3 Certificate of Disposal

WESTON will request certificates of disposal from the waste management firm that is used for the disposal of hazardous waste. The certificates of disposal will be used to identify the specific facility that has been used to dispose of the hazardous waste.

3.6 DEPARTMENT OF TRANSPORTATION REQUIREMENTS

3.6.1 Shipper's Requirements

Shipments will comply with the requirements of 40 CFR 262.30—262.34 and WAC 173-303-190.

3.6.1.1 Marking

All containers holding hazardous waste will be marked in accordance with the U.S. Department of Transportation (DOT) regulations contained within 49 CFR 172.300-338.

The U.S. DOT marking requirements for non-bulk packages (i.e. < 119 gallons for liquids or < 882 pounds and < 119 gallons capacity for solids, 49 CFR 171.8) are generally fulfilled with the accurate completion of a hazardous waste label. Hazardous waste labels will be completed and affixed to containers at the time of generation. The marking specifications for non-bulk packages will comply with 49 CFR 172.301.

The marking requirements for bulk packages (i.e. packages that do not meet the definition of non-bulk) will require the addition of the UN/NA Identification number on each side and each end for containers > 1,000 gallons; and the addition of the UN/NA Identification number on two opposing sides for containers < 1,000 gallons. The marking specifications for bulk packages will comply with 49 CFR 172.302.

3.6.1.2 Labeling

All containers holding hazardous waste will be labeled in accordance with the U.S. DOT regulations contained within 49 CFR 172.400-450. The appropriate hazard warning label will be selected and affixed to non-bulk containers in close proximity to the hazardous waste label. The labeling of bulk packages will be fulfilled through the application of the appropriate placard.

3.6.1.3 Placarding

Hazardous waste shipments will be placarded in accordance with 49 CFR 172.500-560. WESTON will obtain the appropriate placards prior to the shipment of hazardous waste. The placards will be provided to the hazardous waste transportation representative prior to shipment. It will be the responsibility of the hazardous waste transportation representative to affix the placards to the hazardous waste transportation vehicle.

3.6.1.4 Emergency Response Information

Emergency response information will be provided for each shipment of hazardous waste in accordance with 49 CFR 172.600-604. A twenty-four hour emergency response number will be placed on all uniform hazardous waste manifests prior to shipment. In addition, emergency response information contained within the North American Emergency Response Guidebook (NAERG) will accompany each shipment of hazardous waste. This information will be accompany the uniform hazardous waste manifest either by photocopying the appropriate pages of the NAERG and attaching the photocopies to the uniform hazardous waste manifests or by

referencing the NAERG on the uniform hazardous waste manifest and confirming that the waste transportation vehicle carries a copy of the NAERG.

3.6.1.5 Packaging Requirements

Hazardous waste will be packaged in accordance with the Hazardous Materials Table contained within 49 CFR 172.101. WESTON will select packages that conform to the requirements of 49 CFR 178.500-819 Performance Oriented Packaging Standards.

3.6.2 Carrier's Requirements

The following are requirements that the carrier of hazardous waste must comply with during the transportation and disposal of hazardous waste from the FHC site.

3.6.2.1 Standards Applicable to Transporters of Hazardous Waste

Transporters of hazardous waste must comply with 40 CFR Part 263 and WAC 173-303-240 during the transportation and disposal of hazardous waste from the FHC site. Transporters of hazardous waste must have a valid EPA Identification number in accordance with 40 CFR 263.11 and WAC 173-303-240(2).

The use of the manifest must comply with the requirements of 40 CFR 263.20 and WAC 173-303-180(3). The transporter must sign and date the manifest, acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy of the manifest to the generator prior to leaving the site.

In accordance with 40 CFR 263.21 and WAC 173-303-180(3)(c), the transporter must deliver the entire quantity of hazardous waste to:

- The designated facility listed on the manifest; or
- The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or
- The next designated transporter; or
- The place outside the United States designated by the generator.

If the hazardous waste cannot be delivered in accordance with the aforementioned requirements, the transporter must contact the generator for further directions and revise the manifest according to the generator's instructions.

In the event of a discharge of hazardous waste, the carrier must comply with 40 CFR 263.30-263.31 and WAC 173-303-270. The carrier must take appropriate immediate action to protect human health and the environment.

3.6.2.2 Compliance with Federal Motor Carrier Safety Regulations

In accordance with 49 CFR 177.804, carrier's of hazardous waste shipments must comply with 49 CFR Parts 390—397, excluding 49 CFR 397.3 and 397.9, to the extent that those regulations apply.

3.6.2.3 Affixing of Placards

In accordance with 49 CFR 172.506, the person offering a motor carrier hazardous waste for transportation shall provide the required placards for the material being offered for shipment. Placards must be affixed to the motor vehicle prior to transportation of a hazardous waste. It will be the responsibility of the motor carrier to affix placards to the motor vehicle.

3.6.2.4 Loading and Unloading Requirements

The carrier of hazardous waste must comply with the loading and unloading requirements of 49 CFR 177.843—177.844 as they relate to the FHC project.

3.6.2.5 Carrier's Accident Reporting Requirements

In the event of an emergency involving the release of hazardous waste, the carrier must comply with the requirements of 49 CFR 171.15 and 171.16. In addition, the carrier must report the discharge of hazardous waste to the WESTON PM.

3.6.3 Transportation Routes and Restrictions

3.6.3.1 Local Access Routes

The carrier shall access the FHC site as described in Section 2.8.2.1.

3.6.3.2 Disposal Facility Access Routes

The carrier shall comply with the requirements of 49 CFR 397.61—397.77.

3.6.4 Load Securement Requirements

The carrier must secure the load to prevent the release of any hazardous or non-hazardous waste. For the purposes of the FHC project, load securement should include the covering of all bulk loads transported from the FHC site to a disposal and/or recycling facility.

APPENDIX A

LETTER OF AUTHORIZATION—EMERGENCY COORDINATOR

May 2002

To Whom it May Concern:

WESTON hereby grants to the individuals designated as "Emergency Coordinators" or their designees for the control of regulated waste(s) emergencies in the approved Contingency Plan of the Frontier Hard Chrome Facility, authority to commit such resources of WESTON as are needed to carry out the Contingency Plan.

Sincerely,

ROY F. WESTON, INC.

Larry Vanselow
Project Manager

APPENDIX B

GENERIC CLEAN UP PLAN FOR RELEASE TO SOIL

APPENDIX B

GENERIC CLEAN-UP PLAN—FOR RELEASE TO SOIL

a. Contain and remove excess released material.

b. Based on visual observation of area extent, remove contaminated soil.

c. Take representative samples of spill and background area (as applicable), and of spilled material if necessary.

d. Analyze the samples for appropriate parameters and characteristics of the spilled material (i.e., those believed to be present in the spilled material or associated breakdown products).

e. Based on analysis of the representative samples from spill and background areas, determine if the released material has contaminated the soil beyond the initial excavation and if further excavation of the spill area is needed.

f. If further excavation is necessary, repeat analytic procedures until extent of contamination is determined and further clean-up measures decontaminate the area.

g. Excavated soil will be analyzed to determine the appropriate storage, treatment or off-site disposal measures.

Standard sampling methods (i.e., consistent with WAC 173-303-110), labeling, chain of custody and analytic procedures will be used. Test Methods for Evaluating Solid Waste, SW-846, U.S. Environmental Protection Agency, November 1986, will be used as a guideline.

The spill area will be cleaned up in accordance with the requirements of WAC 173-303-145(3).

APPENDIX C

EMERGENCY INFORMATION REPORTING FORM

(This form is provided as an example only. The information contained on the form will be included on any versions of the form used for the same purpose, although the form itself may change in appearance.)

WESTON

EMERGENCY INFORMATION REPORTING FORM

WASHINGTON DEPARTMENT OF ECOLOGY
SWRO

(360) 407-6300

NATIONAL RESPONSE CENTER

(800) 424-8802

STATE EMERGENCY RESPONSE COMMISSION

(800) 258-5990

LOCAL EMERGENCY RESPONSE COMMISSION

911

NAME AND ADDRESS OF FACILITY & NAME OF REPORTER AND PHONE # WHERE REPORTER MAY BE LOCATED

NAME AND PHONE NUMBERS OF ADDITIONAL CONTACTS FOR INFORMATION

DATE TIME

TYPE OF INCIDENT
(SPILL, GAS RELEASE, ETC.)

MEDIA INTO WHICH RELEASE OCCURRED
(WATER, AIR, SOIL, ETC.)

IDENTIFICATION OF MATERIAL

IS MATERIAL AN EXTREMELY HAZARDOUS MATERIAL? (REF: APPX A AND B, 40 CFR 355)

QUANTITY AND DURATION OF RELEASE

POSSIBLE HAZARDS TO THE ENVIRONMENT

ASSOCIATED ACUTE OR CHRONIC HEALTH RISKS (KNOWN OR ANTICIPATED)

PRECAUTIONS TO BE TAKEN

EXTENT OF INJURIES

OTHER COMMENTS